

ABSTRACT OF THE DISCLOSURE

Disclosed is a polymer electrolyte fuel cell including improved separators that cause no mixing of a fuel gas and an oxidant gas. The polymer electrolyte fuel cell comprises a plurality of membrane electrode assemblies and a plurality of conductive separators, wherein the plurality of conductive separators comprise at least one separator comprising: a fuel gas inlet-side manifold aperture; a fuel gas outlet-side manifold aperture; a gas flow channel for fuel gas formed on an anode-side of the separator; an inlet-side through hole and an outlet-side through hole penetrating the separator which are formed at an inlet-side end and an outlet-side end of the gas flow channel for fuel gas; and an inlet-side connection groove and an outlet-side connection groove for connecting the inlet-side and outlet-side through holes with the fuel gas inlet-side manifold aperture and the fuel gas outlet-side manifold aperture, respectively, which are formed on a cathode-side of the separator.